

What Is Claimed Is:

1 1. A triggering method for IP multimedia service
2 control, comprising the steps of:

3 examining a Session Initial Protocol (SIP) response
4 message received by a Serving Call Session Control
5 Function (S-CSCF) according to a set of response
6 Filter Criteria (rFC), comprising specific responses
7 triggering individual application services
8 available from a service provider; and

9 re-issuing a corresponding SIP request message to an
10 application server designated by the rFC if the SIP
11 response message matches Service Point Triggers
12 (SPTs) of the rFC.

1 2. The triggering method according to claim 1, further
2 comprising setting up a list of SPTs of the rFC for matching the
3 SIP response message.

1 3. The triggering method according to claim 2, wherein
2 the SPTs of the rFC are defined by:

3 SIP response code;
4 an SIP method of the corresponding SIP request message;
5 a content of a header field or request-URI of the
6 corresponding SIP request message; and
7 a direction of the corresponding SIP request message.

1 4. The triggering method according to claim 1, wherein
2 the S-CSCF examines the SPTs of the rFC one by one according to
3 their indicated priority.

4 5. The triggering method according to claim 1, further
5 comprising recording the SIP request message when the SIP
6 response message matches the SPTs of the rFC.

1 6. The triggering method according to claim 1, further
2 comprising the steps of:

3 examining an SIP request message received by the S-CSCF
4 according to a set of initial Filter Criteria (iFC);
5 and
6 re-issuing the SIP request message to an application server
7 designated by the iFC if the SIP request message
8 matches Service Point Triggers (SPTs) the iFC.

1 7. The triggering method according to claim 6, wherein
2 the S-CSCF examines the SPTs of the rFC or iFC one by one
3 according to their indicated priority.

1 8. The triggering method according to claim 1, wherein
2 the rFC are stored in a Home Subscriber Server (HSS) as part of
3 the user profile.

1 9. The triggering method according to claim 1, wherein
2 the rFC are downloaded to the S-CSCF upon user registration.

1 10. The triggering method according to claim 1, wherein
2 the application server is an SIP application server.

1 11. The triggering method according to claim 1, wherein
2 the application server is an Internet Protocol (IP) Multimedia
3 Service Switching Function (IP-SSF).

1 12. The triggering method according to claim 1, wherein
2 the application server is an Open Service Access (OSA) Service
3 Capability Server (SCS).

1 13. The triggering method according to claim 1, wherein
2 the triggering method is applied when the application servers
3 are selected depending on a content of the SIP response message.

1 14. The triggering method according to claim 13, wherein
2 the SIP response message represents a connection status is line
3 busy.

1 15. The triggering method according to claim 13, wherein
2 the SIP response message represents a connection status of
3 destination unreachable or not found.

1 16. The triggering method according to claim 13, wherein
2 the SIP response message represents a connection status of call
3 setup failure.

1 17. An Internet Protocol (IP) multimedia subsystem,
2 comprising:

3 a Serving Call Session Control Function (S-CSCF),
4 receiving a Session Initial Protocol (SIP) response
5 message, examining the SIP response message
6 according to a set of response Filter Criteria (rFC),
7 comprising specific responses triggering individual
8 application services available from a service
9 provider; and

10 an application server, receiving a corresponding SIP
11 request message from the S-CSCF if Service Point

12 Triggers (SPTs) of the rFC matches the SIP response
13 message.

1 18. The IP multimedia subsystem according to claim 17,
2 wherein the SPTs of the rFC are defined by:
3 SIP response codes;
4 an SIP method of the corresponding SIP request message;
5 a content of any header field or request-URI of the
6 corresponding SIP request message; and
7 a direction of the corresponding SIP request message.

1 19. The IP multimedia subsystem according to claim 17,
2 wherein the S-CSCF examines the SPTs of the rFC one by one
3 according to their indicated priority.

1 20. The IP multimedia subsystem according to claim 17,
2 wherein the S-CSCF records the corresponding SIP request message
3 when the SIP response message matches the SPTs of the rFC.

1 21. The IP multimedia subsystem according to claim 17,
2 wherein the S-CSCF examines an SIP request message received by
3 the S-CSCF according to a set of initial Filter Criteria (iFC)
4 and re-issuing the SIP request message to an application server
5 designated by the iFC if the SIP request message matches Service
6 Point Triggers (SPTs) of the iFC.

1 22. The IP multimedia subsystem according to claim 21,
2 wherein the S-CSCF examines the SPTs of the rFC or iFC one by
3 one according to their indicated priority.

1 23. The IP multimedia subsystem according to claim 21,
2 wherein the S-CSCF selectively disables the function of
3 examining the rFC.

1 24. The IP multimedia subsystem according to claim 17,
2 further comprising a Home Subscriber Server (HSS) for storing
3 the rFC as part of the user profile.

1 25. The IP multimedia subsystem according to claim 17,
2 wherein the rFC are downloaded to the S-CSCF upon user
3 registration.

1 26. The IP multimedia subsystem according to claim 17,
2 wherein the application server is an SIP application server.

1 27. The IP multimedia subsystem according to claim 17,
2 wherein the application server is an Internet Protocol (IP)
3 Multimedia Service Switching Function (IP-SSF).

1 28. The IP multimedia subsystem according to claim 17,
2 wherein the application server is an Open Service Access (OSA)
3 Service Capability Server (SCS).

1 29. The IP multimedia subsystem according to claim 17,
2 wherein the application servers are selected depending on a
3 content of the SIP response message.

1 30. The IP multimedia subsystem according to claim 29,
2 wherein the SIP response message represents a connection status
3 of line busy.

1 31. The IP multimedia subsystem according to claim 29,
2 wherein the SIP response message represents a connection status
3 of destination unreachable or not found.

1 32. The IP multimedia subsystem according to claim 29,
2 wherein the SIP response message represents a connection status
3 of call setup failure.